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Via Email

Mr. Joel Singerman  
Acting Remedial Project Manager  
U.S. Environmental Protection Agency  
290 Broadway –20<sup>th</sup> Floor  
New York, NY 10007-1866  
Singerman.Joel@epa.gov

**Re: Wolff-Alport Draft Feasibility Study Report**

Dear Mr. Singerman:

The City of New York (“City”) submits the following comments on the United States Environmental Protection Agency’s (“EPA”) Draft Feasibility Study Report (“draft FS”) for the Wolff-Alport Chemical Company Site (“Site”). The City incorporates by reference its previous submissions relating to the Site. The City appreciates this opportunity to comment on this draft document and requests that these comments be included in the administrative record for the Site.

**Sewer Line Excavation**

The draft FS Alternatives 2, 3, and 4 propose the removal and replacement of the entire sewer line on Irving Avenue from the connection at the Wolff Alport property, on the Cooper Avenue line (up-gradient from the manhole Irving Avenue and Cooper Avenue intersection), to the Irving Avenue and Halsey Street intersection, and ending at the Halsey Street and Wyckoff Avenue intersection. Draft FS page 3-2. These alternatives also propose excavating surrounding soils to a minimum depth of two feet under the sewer pipe. *Id.*

**Sewer Infrastructure**

The City believes that limiting the draft FS’s alternative evaluation to essentially one option—the wholesale removal and replacement of impacted sewers—is inadequate. EPA should evaluate and consider other less disruptive and less costly decontamination alternatives, such as jet washing and partial sewer replacement following assessment of decontamination efforts.

The City believes that sewer removal and replacement is not an appropriate alternative for all areas of the impacted sewer system because it is costly and requires relocation and/or rerouting of utilities, extensive disruptions to vehicular and pedestrian traffic, and other construction impacts that are likely exacerbated by the nature of the radioactive contamination being addressed. According to the New York City Department of Environmental Protection (“NYCDEP”) sewer removal and replacement, which also requires the removal and replacement of water mains, would cost approximately \$10 million. These costs do not account for the removal, disposal and replacement of excavated contaminated fill—costs that will likely be in the tens of millions of dollars. NYCDEP estimates that the costs for just removal and replacement of contaminated fill would range from \$7,500,000 to \$30,000,000 depending upon the level of contamination. There are also other costs, both economic and social, that are not considered in the draft FS, including costs for sheeting the excavations, potential dewatering (and the disposal of that water), private utility (electric, telephone, gas, etc.) removal and replacement, trucking costs, potential underpinning of buildings to protect from collapse, as well as Engineering Design and Supervision. Social costs include potentially temporarily relocating local residents due to removal of essential utility services, lack of street access/sidewalk access for extended periods of time, lack of access to buildings and potential closing of business because of these access issues for the duration of the extensive construction process. Furthermore, depending on methodology, the work proposed in the draft FS could take years to complete, resulting in years of these extensive and unnecessary disruptions to the local community. None of these costs were accounted for in the draft FS.

Accordingly, sewer infrastructure removal and replacement should not be the only alternative considered especially considering the feasibility and efficacy of sewer line decontamination methods, particularly for the less contaminated portion of the sewer running from the intersection of Irving Avenue and Halsey Street to Wyckoff Avenue (an area that was not fully investigated). See Draft FS at ES-7 and 1-16. Sewer replacement for the less contaminated portions of the system is not supported by the data presented. Therefore, the City encourages EPA to consider in more detail the far less costly and more easily implemented alternatives (i.e., high pressure washing, etc.) that EPA originally rejected. For reasons explained below, these alternatives are likely to be effective in meeting the remedial action objectives.

While the most significant radionuclide contamination was identified in the sewer line originating at the Site, gamma count rates generally decrease further away from the property and drop to background levels at the intersection of Irving Avenue and Eldert Street. The sewer investigation found only “sporadic occurrences” of elevated gamma levels in the sewer along Halsey Street between Irving Avenue and Wyckoff Avenue. See Draft FS at ES-7 and 1-16. These elevated levels were found at the inverts of manholes at the lowest point in the system (at H-2 and H-3). This pattern of contamination—i.e. a decrease in contaminant levels as one gets further from the source, with “sporadic” evidence of contaminants at the lowest points in the system—strongly indicates that, over time, site contaminants have washed downstream from the source, with very little adsorption to sewer line structure, as evidenced by the lack of gamma count rates, and have only accumulated at the low points in the system - the sewer line inverts. It is therefore unlikely that the sewer pipes along this stretch persistently absorbed contaminants and are contaminated. Indeed, the absence of elevated gamma levels past Eldert Street on the Irving Avenue line indicates that the sewer structure itself is not contaminated.

In light of this, the City believes that sewer system removal between Irving Avenue and Wyckoff Avenue along Halsey Street is overly conservative and unnecessary, especially without having considered or investigated any less costly decontamination methods, and poses excessive burdens on the public, and in light of the identified risks posed by the level and nature of the contamination. The sewer investigation, soil borings, and sampling of construction materials do not indicate that removal of this section of the sewer line is necessary based on exposure risk.

The City believes that more cost-effective and less disruptive alternatives, such as sewer flushing or lining, should be considered for the sewer line running down Halsey Street. In particular, the City believes that EPA should reconsider sewer jet cleaning as a possible method to remove contamination in this sewer section. In the draft FS, sewer jet cleaning was rejected from further consideration based on its perceived ineffectiveness in addressing radiological contamination. *See* draft FS at 2-20. However, as discussed above, the contamination located within the sewer running down Halsey Street is likely due to contaminated sediments and, as acknowledged in the draft FS, sewer jet cleaning is capable of removing and reducing surficial and near surface contamination in porous materials through high pressure washes. Sewer jet cleaning is also easily implemented with a relatively low cost and would likely reduce or eliminate sewer structure contamination and contaminated sediment accumulation to acceptable release levels or to levels that, in conjunction with institutional and/or engineering controls, would meet remedial action objectives. Jet heads over 1000 psi will remove all the sediment and transport it to a collection point where all the material can be vacuumed up into a truck. Once all the sediment is removed, the pipe can be lined to correct any minor deficiencies. The City estimates that this process for the entire run of sewers would cost approximately \$600,000 to \$1,000,000, would take approximately 4 to 6 weeks to complete, and eliminate access issues and closures for local residents and businesses. It is therefore recommended that the use of this alternative be considered as a viable alternative and one that would significantly reduce construction costs and community impacts.

#### *Soil Excavation Around the Sewer*

The draft FS states that for all alternatives except for Alternative 1, soils below the invert of the sewer line exceeding the Preliminary Remediation Goals for Radionuclides (“PRGs”) would be removed in 6 inch increments until no longer detected based on sampling results. *See* draft FS at 3-2. However, the City does not believe that there is any need to remove the soils underneath the pipe. The sewers in this area were constructed in the 1920’s and are likely made of clay. With this type of sewer construction, the bell and spigot of the pipe form a tight joint that typically has concrete underneath. The likelihood that material within the pipe “leaked” into the surrounding soil is minimal. Therefore, as explained above, the City believes that any alternative that involves flushing, extraction of sediment, and/or pipe lining is a highly viable solution that would adequately address contamination.

Furthermore, it is unlikely that any plausible future use scenarios associated with sewer or surface maintenance or other use activities above sewer lines would result in risk or dose levels that would require removal due to several factors including the shielding effects of uncontaminated materials below grade (sewer pipe, gravel, soil, etc.), surface cover, limited stay time for workers, and distance to contamination. NYCDEP does not believe it is plausible to assume that future use scenarios (i.e., occasion maintenance activities) for workers would result

in exposure that exceed 12 mrem/yr with old sewer line and sediment removal, even if some residual contamination were present under the pipe bedding which has not been proven or characterized. Therefore, assuming even minimal efficacy of sewer decontamination along with the limited worker duration time, institutional and engineering controls identified under Alternatives 2 and 3 should be adequate to ensure protection of workers under foreseeable circumstances.

### **Soil Removal and Institutional Controls in the Right-of-Way**

For the removal of contamination in the right-of-way (i.e. sidewalks and streets), the City believes that EPA should consider an alternative that removes contaminated soil only up to a depth of 5 feet. This would include the areas in Alternative 4 that are identified as requiring excavation to 20 ft. along Irving Avenue between Cooper Avenue and Moffatt Street and the 6 ft. of excavation at the northeast section of Moffatt Street. A reduction in soil removal depth should be considered to account for anticipated residual soil concentrations, reduced contaminated soil column depth (i.e. below 5 ft. or utility inverts), and the shielding effect from the placement of clean fill above contamination. Considering these factors, the City feels that future use scenarios in these areas would not indicate that the removal of soils to a depth of 20 ft. and 6 ft. is necessary. Instead, excavation should only be required to five ft. bgs., a depth that provides access to existing utilities without undue worker hazards or the need for additional ICs.

Indeed, excavations greater than five feet will cause a disruption to existing utility lines, including gas and electric lines, water mains, cable and telephone lines and impose additional engineering and structural requirements that are costly, extremely disruptive to the public, and result in longer construction periods. Depending on the length of construction and excavation depth, utilities may need to be removed and temporarily relocated. In addition, excavations beyond that depth will require structural supports such as the underpinning of adjacent buildings to temporarily support foundations during excavation and shoring for worker safety, the extent of which increases with the depth of the excavation. These requirements will result in significant increases in construction time and costs and disruption to residents, services and businesses.

Furthermore, the City believes that excavations to the depth of 5 feet would minimize or eliminate the need to implement institutional controls in the right-of-way, as delineated in Alternatives 2 and 3. Both of these alternatives require deed notices on Irving and Moffat Street that would limit certain types of intrusive activities and put in place use restrictions. *See* draft FS at 3-7 and 3-9. The City questions whether institutional controls are the most feasible alternative in this highly urban area that includes extensive underground utility infrastructure requiring a constant need for street openings by different types of entities. Since 2012, New York City Department of Transportation (“NYCDOT”) received 105 requests for street opening permits in this area from entities ranging from large utilities, such as Con Edison, to smaller entities with minimal or no experience in managing exposures or waste materials of the type identified at this Site. The City urges EPA to consider the challenges faced in implementing certain types of institutional controls in the City right-of-way and whether such institutional controls would be necessary below five feet of clean soil. Furthermore, the City also urges EPA to consider the benefits of limiting excavation depth to roughly five feet in order to avoid unnecessarily interfering with utilities and incurring additional construction costs.

## **Phased Construction**

The City recommends that EPA consider an alternative that provides for a phased construction period in order to minimize, or avoid completely, essential service disruptions to residences, schools and businesses in the area. A phased construction approach would also help maintain adequate vehicle and pedestrian access including for emergency response vehicles and responders.

## **Cost Estimates**

The draft FS includes a cost estimate for each of the four proposed alternatives. *See* draft FS 4-14. The City believes that these estimates vastly underestimate costs by under-projecting, among other things, costs associated with conducting sewer removal and replacement (including associated water main removal and replacement), and excavation work in the right of way.

The draft FS, Appendix B, estimates sewer line excavation, removal, and replacement to cost approximately \$5,172,000. According to NYCDEP, based on its expertise and vast experience in performing sewer work in the City, the estimated cost for this work (including replacing the associated water mains, which is necessary for sewer replacements) would be nearly \$10 million, almost double EPA's estimates. This cost does not account for the significant additional costs associated with radiological contamination, such as worker training and protection, and disposal costs. Furthermore, and as discussed below, costs associated with the Final Status Survey (FSS) acceptance planning and sampling should be more fully delineated and identified in the final FS.

Lastly, the cost estimate does not take into account costs associated with utility work, including the need to remove and temporarily relocate water, electrical, gas, cable and telephone lines; or the significant additional construction costs associated with deep excavation that would require structural support for building foundations. These costs should all be included in EPA's assessment and, given their significance, failure to consider these costs would be inconsistent with the National Contingency Plan ("NCP").

## **Previously Submitted Comments**

The City also incorporates the following comments on the draft FS that were previously submitted to EPA on May 11, 2017:

1. **Page 2-20, Section 2.6.6, Landfill Disposal.** While it is understood that in most cases, PCB concentrations will be the primary concern for disposal options, it is possible that toxicity characteristic leaching procedure (TCLP) requirements might drive disposal options based on selenium and arsenic concentrations.
2. **Page 2-11, Section 2.4, Identification of Remediation Target Areas.** This section identifies >10,000 cpm, being approximately equal to 5 pCi/g (sewer geometry influence excepted) as a trigger level of for screening survey results in the sewers and building surveys (section 3.2.2.1). The count rate is used to estimate volume of contaminated media. Due to the use of the correlation, the data and correlation should be shown.

3. **Section 3, Development of Remedial Action Alternative.** The text indicates that gamma survey results will be used to satisfy Final Status Survey (FSS) requirements by confirming soils exceeding 5 pCi/g were removed from excavations dug at fixed depth and undetermined horizontal extent, and the gamma surveys would be performed only on vertical excavations surfaces. MARSSIM, however, requires that site final status surveys verify that the mean residual soil concentrations meet investigation derived concentration guidelines (DCGLS) that were derived from reasonable exposure scenarios and the maximum allowable exposure. It is unlikely that two dimensional survey results, based on a correlation representing multiple ROPC with an unspecified confidence interval would be adequate to verify that site remediation met release criteria under any circumstance. At a minimum, soil samples, gamma survey results and statistical assessment of the estimated survey unit mean residual soil concentrations and elevated measurement locations will be necessary to show compliance with release criteria. This will require a FSS plan, data from all excavation surfaces, and a FSS report showing that the unit meets the site dose release criteria within the required confidence interval. Completing the FSS and generating a FSSR is a significant effort and expense and should be considered in the overall cost estimate for each alternative.
4. **Pages 3-7 and 3-9, Sections 3.2.2.2. Alternative 2 and 3.2.2.3 Alternative 3.** While groundwater is not considered a media of concern (page 2-5), the long-term monitoring requirements under Alternatives 2 and 3 imply that groundwater is being treated as a media of concern and that it poses a potential concern for contaminant migration. The City recommends eliminating the groundwater monitoring requirements in these alternatives.
5. **General Comment:** The FS should specify that restoration of sidewalks and roadways will be constructed pursuant to current New York City Infrastructure Design Standards as reflected in the following documents: NYC DOT Standard Highway Specifications, August 2015: Volume I; NYC DOT Standard Highway Specifications, August 2015: Volume II; and NYC DOT Standard Details of Construction, July 2010 (Revised March 15, 2016). These documents are available at the following link: <http://www1.nyc.gov/site/ddc/resources/publications.page>.

***Conclusion***

The City appreciates the opportunity to comment on the draft FS, and looks forward to continuing to work with EPA and others to address historic contamination at the Site.

Sincerely yours,

/s/

Haley Stein  
Assistant Corporation Counsel

cc: Jean Regna